The symptoms of altitude illness can range from mild to potentially fatal. All travelers to high altitude destinations need to know the symptoms of altitude illness and listen to early warning signals before symptoms worsen. It is OK to get altitude illness. It is not OK to die from it.

**Prevention of Altitude Illness**

- Pre-acclimatize before a trip.
- Hypoxic tents or bedrooms for at least 7-8 hours a day for a week can allow for pre-acclimatization.
- Short term hypoxic masks and exercise chambers don’t work.
  - Ascend slowly.

**MEDICATIONS:**

**Acetazolamide** accelerates acclimatization.
- Take 125mg twice daily; start 24 hours before ascent and continue until after 2nd or 3rd night at maximum altitude or with descent, whichever occurs earlier.
- No rebound effect if the medication is stopped.
- For sleeping problems at altitude (periodic breathing): 125mg at night
  - Increased urination is normal with acetazolamide.
  - Numbness/tingling in the fingers and toes may occur.
  - Carbonated drinks may taste funny.
- Don’t take acetazolamide if you have a severe sulfa allergy.

**Dexamethasone** provides rapid relief of symptoms but does not accelerate acclimatization.
- Rebound symptoms can occur if medicine stopped too soon.
  - Take 2mg every 6 hours or 4mg every 12 hours.

**Ibuprofen** 600mg three times daily may also prevent altitude illness.
Typical Tourist Destinations
- Mild symptoms can occur, but HAPE or HACE rarely occur; however symptoms may be enough to interfere with tourist activities.
- Most mountain resorts are located at lower altitudes (1200-3000m, 3900-9800ft).
- Travelers may go higher during daytime activities (skiing, hiking, sightseeing) but risk is lessened by descending again, to sleep at resort altitude.
- More risk for travelers who hike vigorously or fly/drive directly to higher altitudes, since gradual acclimatization cannot occur. Common locations include Cuzco, La Paz, and Lhasa.

Recommendations for a safe ascent:
- Go slowly.
- Avoid over exertion.
- Avoid abrupt ascent to sleeping elevations to >3000m.
- Spend one to two nights at an intermediate elevation (2500-3000m) before further ascent.
- Above 3000m, sleeping elevations should not increase by more than 500m per night.
- When topography or village locations dictate more rapid ascent, or after every 1000m gained, spend a second night at the same elevation.
- Day hikes to higher elevations, with return to lower sleeping elevations help to improve acclimatization (“walk high, sleep low”).
- Avoid alcohol consumption in the first two days at a new, higher elevation.
- Stay hydrated, but avoid “over” hydration or “forced” hydration.
- Never ascend with symptoms of AMS.
- Never leave a sick person alone.

See UVA SH regional travel recommendations for more information regarding altitude illness and specific locations.

High Altitude Trekking
- Trekkers are at higher risk of HAPE and HACE.
- 2-3 trekker deaths a year occur from complications of altitude sickness in Nepal.
- Trekkers of Mount Kilimanjaro are at extremely high risk of altitude illness given the rapid rate of ascent of typical treks.
- Since no technical climbing expertise is needed to climb Kilimanjaro, many travelers are ill-prepared, ascend too quickly, get altitude illness, and fail to summit.

Acute Mountain Sickness (AMS)
Most common form of altitude illness.
Symptoms feel like an alcohol hangover.
Headache is the main symptom, usually 2-12 hours after arriving at high altitude, and often during or after the first night.
May include fatigue, loss of appetite, nausea and occasional vomiting.
Usually resolves within 24-72 hours at the same altitude.
Symptoms can be treated conservatively with rest, fluids and analgesics.

High Altitude Cerebral Edema (HACE)
High Altitude Pulmonary Edema (HAPE)
HACE and HAPE are the life threatening forms of altitude illness that occur when the brain or the lungs are affected by the lack of oxygen and swelling.
The danger signs to be aware of in yourself and your companions are:
- Acting Drunk (cannot walk in straight line and change in consciousness)
- Respiratory Distress (shortness of breath at rest and weakness)

Treatment of AMS
- Stop Ascent.
- Symptomatic therapy, for mild symptoms.
- Non-opioid analgesics (like ibuprofen) for headache.
- Anti-nausea medications.
- Descend, until symptoms resolve (usually 300-1000m).
- Supplemental oxygen, if available.
- Acetazolamide: 250mg twice daily until symptoms resolve.
- Dexamethasone: 4mg every 6 hours until symptoms resolve.

◊ HACE and HAPE are medical emergencies. Descent and urgent medical attention are critical.